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Therapeutic management of anaemia in goats

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Abstract

An experiment was carried out to study the anaemia in lactating goats from Deccani Sheep and Berari Goat Research station Borgaon Manju Dist. Akola. Total 18 lactating goats aged between 2-4 Years free from parasitic infection and having pale mucous membrane and having lower haemoglobin concentration (below 8 gm%) were selected and divided randomly into three equal groups out of which one group kept as control (T1) without treatment. Second group (T2) was treated with injection imferon (iron dextran 50 mg/ml) twice in a week @ 3-4 mg/gm of Hb deficiency per kg body weight. Intramuscularly for 2-3 weeks. Third group was treated with oral haematinic preparation (Ferrous sulphate 4.5 gm, Copper sulphate 0.3 gm, Manganese sulphate 0.1 gm, Cobalt sulphate 0.1 gm) @ 5 gm powder orally once daily till the rise in Hb concentration. All the goats were subjected for clinical haematological and biochemical studies before treatment and on day 15 and 30 of post treatment.

The anaemic goats were showing signs of variable reduced appetite, pale visible mucous membrane, weakness and reluctance to move. The clinical study revealed increase in respiratory and heart rate and mild rise in body temperature and decrease in body weight. The administration of parental hematinic preparation resulted into early clinical improvement than oral hematinic preparation.

The haematological study revealed significant decrease in Hb, PCV and TEC and apparent decrease in TLC and no alteration in DLC in anaemic goats. The Hb, PCV and TEC values improved after administration of parenteral and oral haematinic preparation. The erythrocyte indices study revealed increase in MCV and decrease in MCH without affecting MCHC indicated that anaemia produced was Macrocytic Normochromic type. The biochemical study revealed significant decrease in serum iron and copper and apparent decrease in serum total protein and albumin in anaemic goats. After treatment with parenteral and oral haematinic preparation, all the biochemical parameters improved as compared to control group.

Keywords: anaemia, haemoglobin, PCV, MCV, TEC, DLC, MCHC and imferon

Introduction

Goats are an important species of livestock for the poor farmers of India and play an important role in improving national economy through meat, milk, skin and hair production. Anemia is one of the common condition occurs in goats affecting production performance of goats. There are various causes of anemia. The dietary deficiency is one of the important cause of anaemia apart from anaemia due to helminth infestation in goats. The dietary deficiency anaemia occurs due to diminished Haemoglobin formation or erythrocytes. The reduced haemoglobin formation may be attributed to dietary deficiency of iron, copper, cobalt, ascorbic acid, pyridoxine, nicotinic acid, riboflavin etc.

Material and Methods

The present study was carried out at Deccani sheep and Berari goat Research station, Borgaon Manju Dist. Akola and the department of Medicine PGIVAS Akola.

Selection of experimental animals

Total Thirty eight female lactating goats aged between (2-4 years) maintained under semi intensive farming system from deccani sheep and Berari goat research Station Borgaon Manju Dist. Akola were screened for endoparasitic infection by fecal sample examination. And Haemoprotozoan infection by microscopic examination of blood smear. Out of which eighteen female goats free from endoparasitic & blood protozoan infection and having Haemoglobin concentration below 8gm% and showing pale mucous membrane were selected and divided into three equal groups, comprising of six goats in each group.

Treatment of animals

First group (T1)

Each animal of this group was kept as an untreated control.

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Second group (T2)

Each animal of this group was treated with Injection Imferon twice in a week which contain iron dextran at a concentration of 50 mg of iron per ml given by intramuscular route. The total dose of Iron was given as recommended by Sigmund (1979) i.e. approximately at the rate of 3-4 mg/gram of Hemoglobin deficiency/kg body wt.

Third group (T3)

Each animal in this group was treated with oral preparation of haematinic powder which comprised of

Ferrous sulphate IP: 4.50 gm
Copper sulphate IP: 300 mg
Manganese sulphate IBPC: 100 mg
Cobalt sulphate B Vet C: 100 mg

At the dose rates of 5 gm orally once daily, till the Hb level reached to above 8.0 gm %

Result and Discussion

In the present investigation the anaemia was studied in lactating female goats free from parasitic infection at Deccani Sheep and Berari Goat research Station Borgaon Manju Dist. Akola. And effectiveness of parenteral and oral haematinic preparation was evaluated on the basis of improvement in clinical and haematological parameters.

In the present investigation all anemic goats were showing the signs of variable reduced appetite, paleness of visible mucous membrane, muscular weakness, reluctance to move and general weakness. Similar clinical observations were also recorded by Sarkar and Misra (1991) ^[12], Sarkar *et al.* (1992) ^[12], Radostitis *et al.*, (2000) ^[9] and Pophale (2002) ^[7] in anemia caused due to nutritional deficiency.

The group (T2) treated with parenteral haematinic preparation showed clinical improvement in appetite normal colour of mucous membrane appears, weakness subsides and general condition with 18 days of experimental period where as group (T3) treated with oral haematinic preparations. Haematological study revealed significant decrease in Hb, PCV, and TEC in anaemic goats. The erythrocytic indices i.e. MCV, MCH and MCHC values revealed macrocytic normochromic anaemia as evidence by increase in MCV and decrease in MCH without change in MCHC in anaemic goats. Based upon the clinical haematological and biochemical findings the present investigations confirms the efficacy of inj. Imferon and oral haematinic mixture. The administration of inj. Imferon and oral haematinic mixture. The administration of inj. Imferon has superior over the oral haematinics mixture. Also reported by earlier worker. (Sarkar *et al.* 1992, Ramkrishnan *et al.* 1992, Pophale 2002) ^[7, 8, 11, 12]. From the present investigation it is observed that the administration of haematinic preparation earlier orally and parentally were found effective to alleviate anaemia caused by nutritional deficiency during the lactating stages in goats.

Reference

1. Anonymous. Annual report, Central Institute of Research on goats (CIRG) Makdhoom, Mathura (U.P): 4 2015.
2. Bachkar SR. Comparative efficacy of anthelmintics against haemonchosis in goats. M.V.Sc Thesis submitted to MAFSU, Nagpur. (M.S) 2006.
3. Gondchar DA. Studies on anaemia of helminth origin in goats of akola town. M.V.Sc Thesis submitted to

MAFSU, Nagpur (M.S) 2002.

4. Kadam Yogita, Waghmare SP, Mode SG, Kolte AY, Pundekar RD, Sukare PG. Study on anaemia in Haemonchus infested sheep Veterinary world 2007;6(3):71-72.
5. Mude SW. Effect of multi mineral supplementation on macro-micro mineral profile in goats, M.V.Sc. Thesis submitted to MAFSU, Nagpur 2007.
6. Padmaja BK, Satishkumar, Harita C. Haematological and blood biochemical profile of sheep with mixed endoparasitic infestation. Ind. Vet. J 2006;83(6):634-636
7. Pophale PD. Evaluation of some drugs from different systems of medicine against caprine anaemia M.V.Sc thesis Submitted to MAFSU Nagpur (M.S) 2002.
8. Ramkrishnan KV, Choudhary PC, Sivaraman Krishnayya K, Reddy JS. Evaluation of dose schedule of parenteral and oral iron preparations in experimental haemorrhagic anaemia in buffaloes. Indian Vet. Journal 1992.
9. Radostitis OM, Gay CC, Blood DC, Hinchcliff KW. Veterinary Medicine a Textbook of diseases of cattle, sheep, pigs, goat and horses 9th Edn Bailliere Tindall Casell, London 2000, P414-416.
10. Sandhu AK, Saini A, Randhawa SS. Haematological studies in health goats Indian vet. J 2001;78:590-593.
11. Sarkar S, Misra SK, Bhowmik MK, Samanta AK, Bask DN. A note on anaemia in goats of alluvion belt of west Bengal and its therapy Indian vet. J 1992;69:1139-1141.
12. Sarkar S, Misra SK. Haematologically changes in experimentally induced nutritional anaemia in goats and its therapy, Indian Vet. J 1991;68:769-774.
13. Satale BA. Prevalance, clinicopathology and treatment of parasitic anaemia in goats M.V.Sc Thesis submitted to MAU., Parbhani (M.S) 2001.